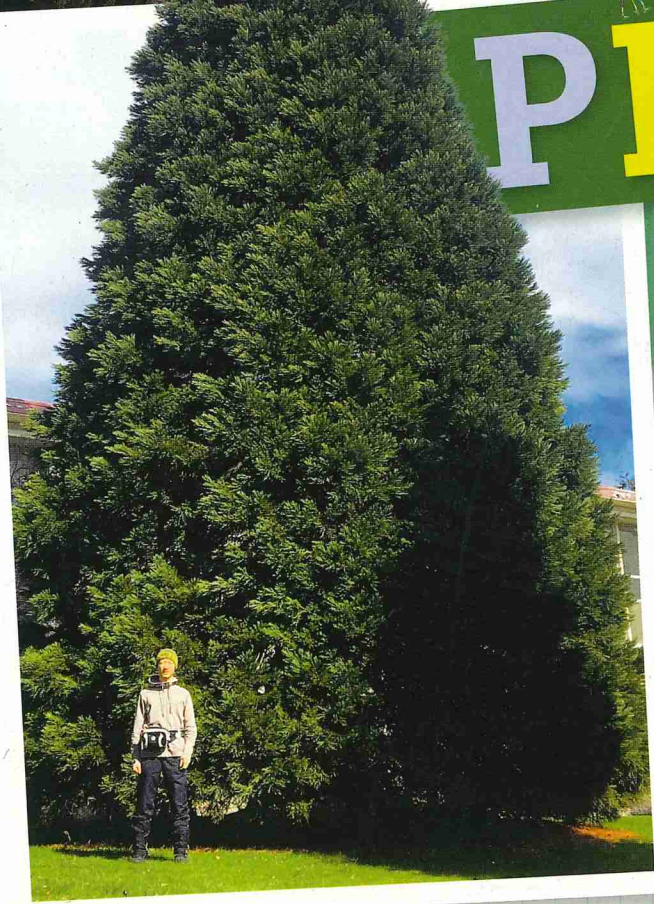




OLLIE

# PLANT POWER!



Fifteen-year-old Ollie Zhao has been building and inventing things since he was in second grade. When he learned that plants and trees hold mini volts of electric charge, he decided to take on the challenge of turning that charge into battery power.

PHOTOS: COURTESY OF OLLIE ZHAO

## How Did He Do It?

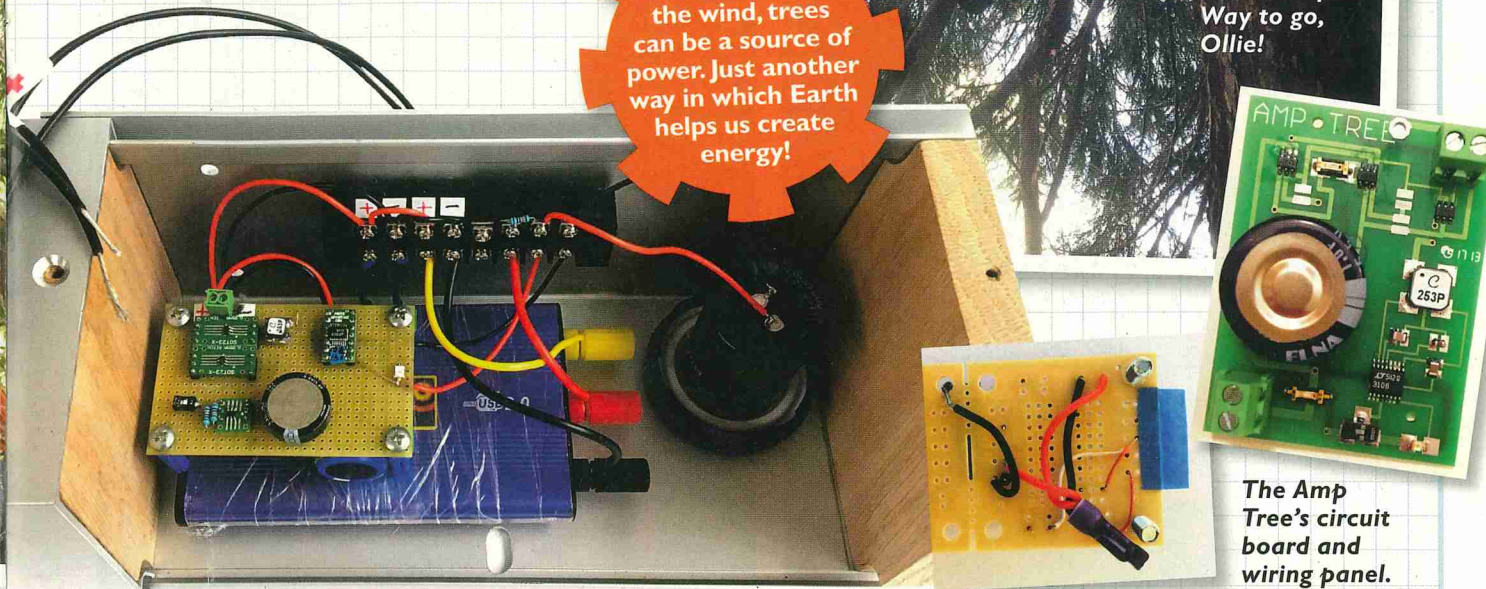
- 1 First, Ollie attached electrodes to a few trees and measured the voltage to see if they produced electricity. He discovered that the fir trees near his school made the most electricity.
- 2 Then Ollie designed and built a device to collect and store the tree's energy. He called his invention the Amp Tree. Ollie tested many versions of his project until he found the most efficient one.



Plants and trees make their own energy through photosynthesis.

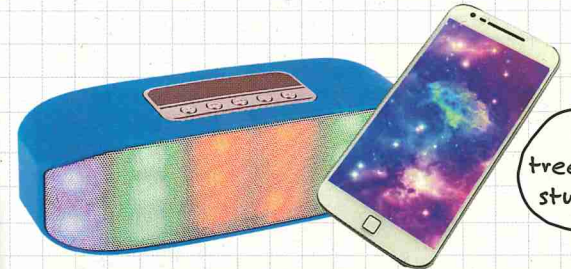
Ollie entered his project into the 2017 Canada-Wide Science Fair. He won an award and a university scholarship. Way to go, Ollie!

Like the sun and the wind, trees can be a source of power. Just another way in which Earth helps us create energy!



The Amp Tree's circuit board and wiring panel.

- 3 He built a wooden box to protect the Amp Tree's circuit board and wiring from rain, snow, and other weather. Then Ollie attached the box to the tree and connected the Amp Tree wiring to the electrodes.
- 4 The tree's power flowed through the wires, then was stored in a capacitor (a device that collects an electrical charge) and converted into battery power.
- 5 The Amp Tree collected enough energy to power small electronic devices, such as radios, sensors, and smartphones.



Pretty tree-mendous stuff, right?

### MAKER CHALLENGE

Have you made an amazing project that you want to share with OWL readers? Tell us about it! [owl@owlkids.com](mailto:owl@owlkids.com)

